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Method and arrangement for multichannel analog/digital conversion   /KN/   01/24/2008

This application is a 371 of PCT/IB04/51248 filed July 16, 2004 which claims priority to European patent application 03102375.7 filed July 31, 2003.

The invention relates to an arrangement and a method for multichannel analog/digital (A/D) conversion, in which in a first and second channel respectively in a first or second channel provision area a first and second analog signal awaiting conversion is sampled by a respective first and second S/H (Sample & Hold) element and the respectively

5   stored sample value thereof is applied as a channel sample to a first and second input of an analog multiplexer for selection, wherein the processing of the respective channel sample then takes place in a processing cycle of all channels by said channel sample being selected in the analog multiplexer by a digital selection control signal for the analog/digital conversion and provided as analog selection signal at an output of the analog multiplexer and

10   after the respective channel provision area being converted in an analog/digital converter.

With the increasing use of digital signal processing, there is also a great trend for making analog signals available for digital signal processing by means of analog/digital conversion.

In the prior art, it is frequently seen that in order to use digital signal

15   processing even a number of analog signals have to be converted into digital signals.

An analog/digital converter, based on most use cases, is an expensive circuit part. In it, besides any resistor network, the reference generation forms a large part of the converter.

Attempts are thus aimed at simplifying analog/digital converters and/or using

20   them in a multiple manner. This is all the more urgent when the conversion of analog signals is provided, which as dynamic signals change very quickly and as a result one or more sample & hold elements have to be connected upstream of the necessary analog/digital converter.

Moreover, providers of integrated circuits try to minimize the IP costs and the

25   resulting risk by using the same design or a design with minimal changes as far as possible for all necessary converter types. Each type of converter is operated differently close to its original design limits.